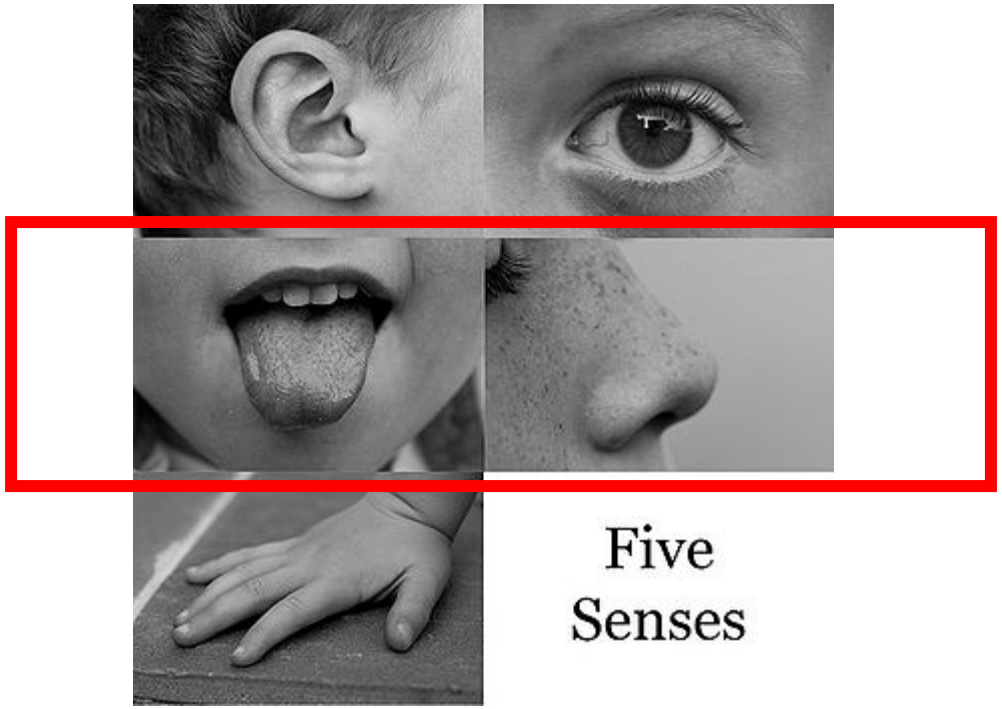
What have I not told you?

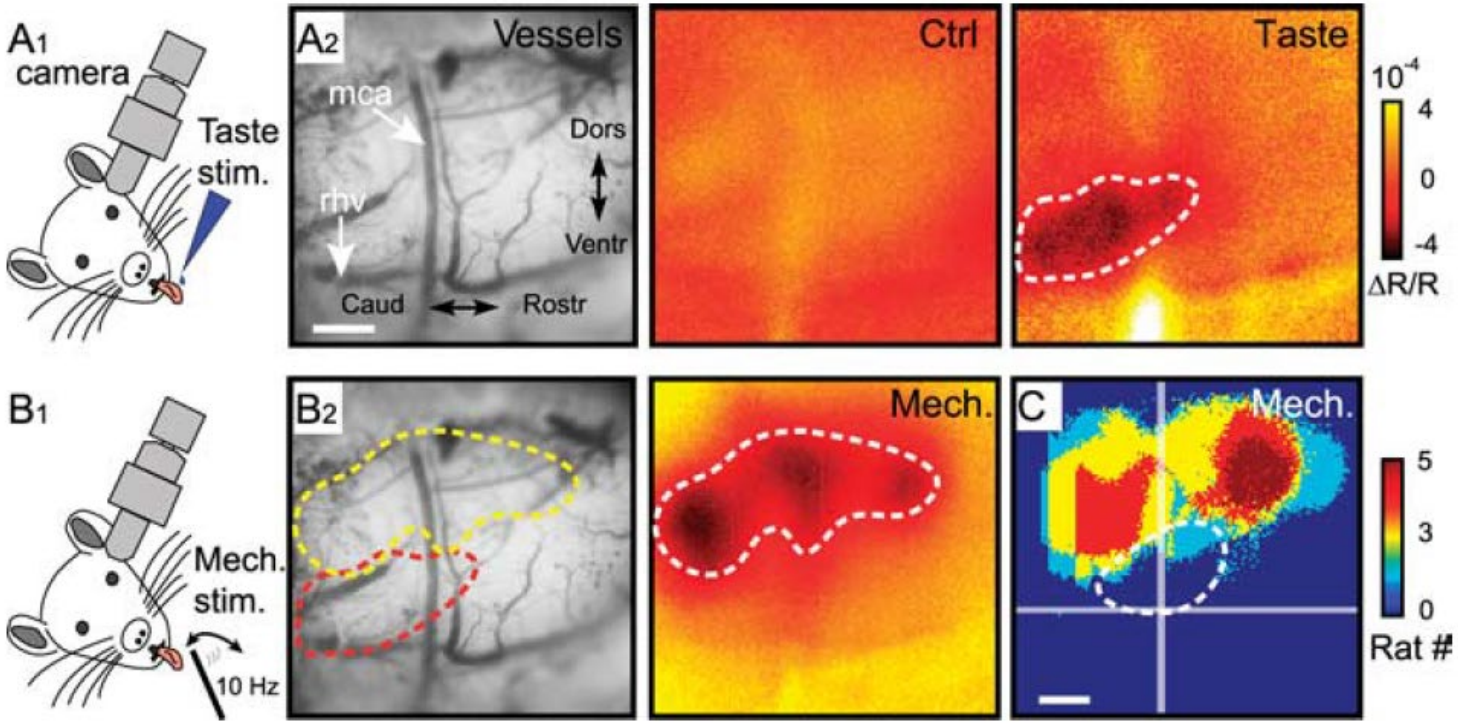
Continuous variables?

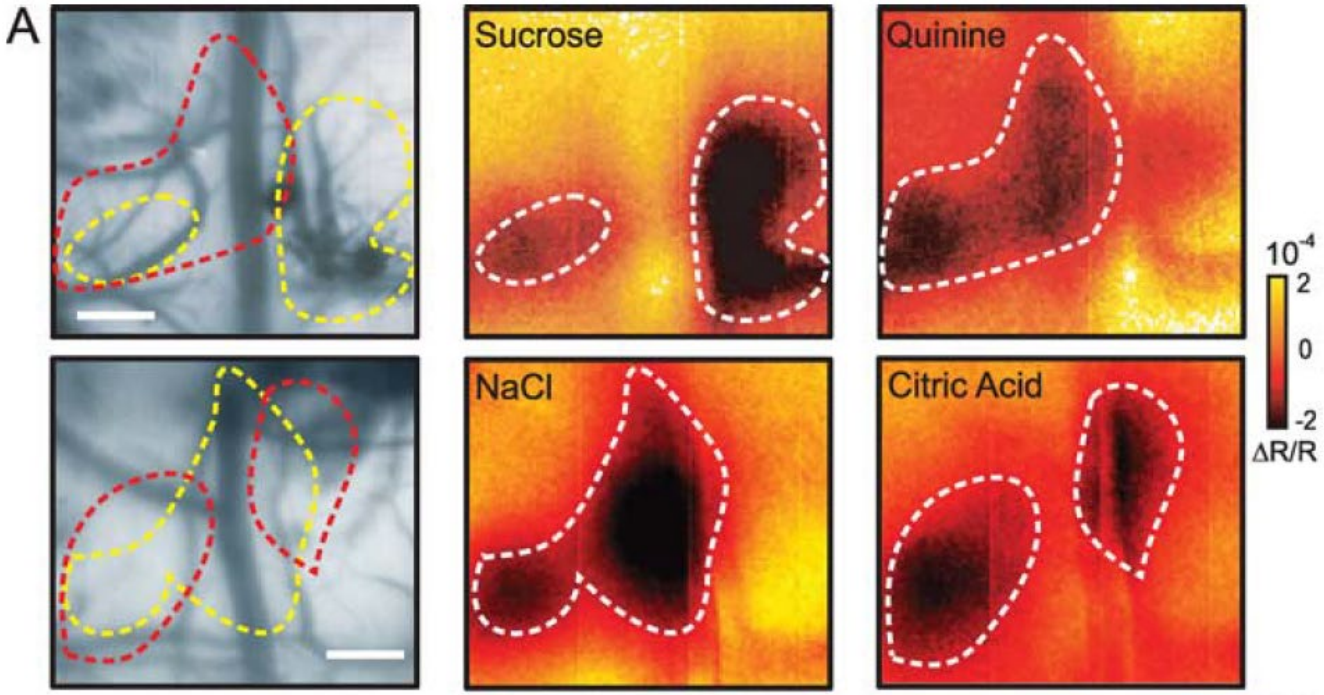


(relevance of flexibility/diversity)

Gustatory maps

- Taste (salty, sweet, sour, bitter, umami)
- Not segregated on the tongue!!
- Texture
- Palatability - binary response



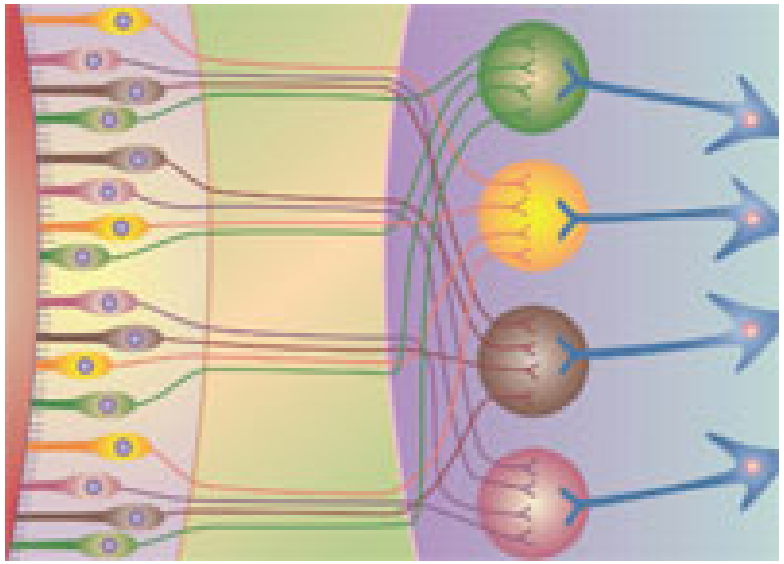


- Segregated and distributed activity
- Distinct activation patterns for each taste
- Higher degree of overlap may indicate similar hedonic value
- Cortical region for processing "good" taste?

Accolla et al., J Neuroscience 2007 27: 1396

Olfactory maps

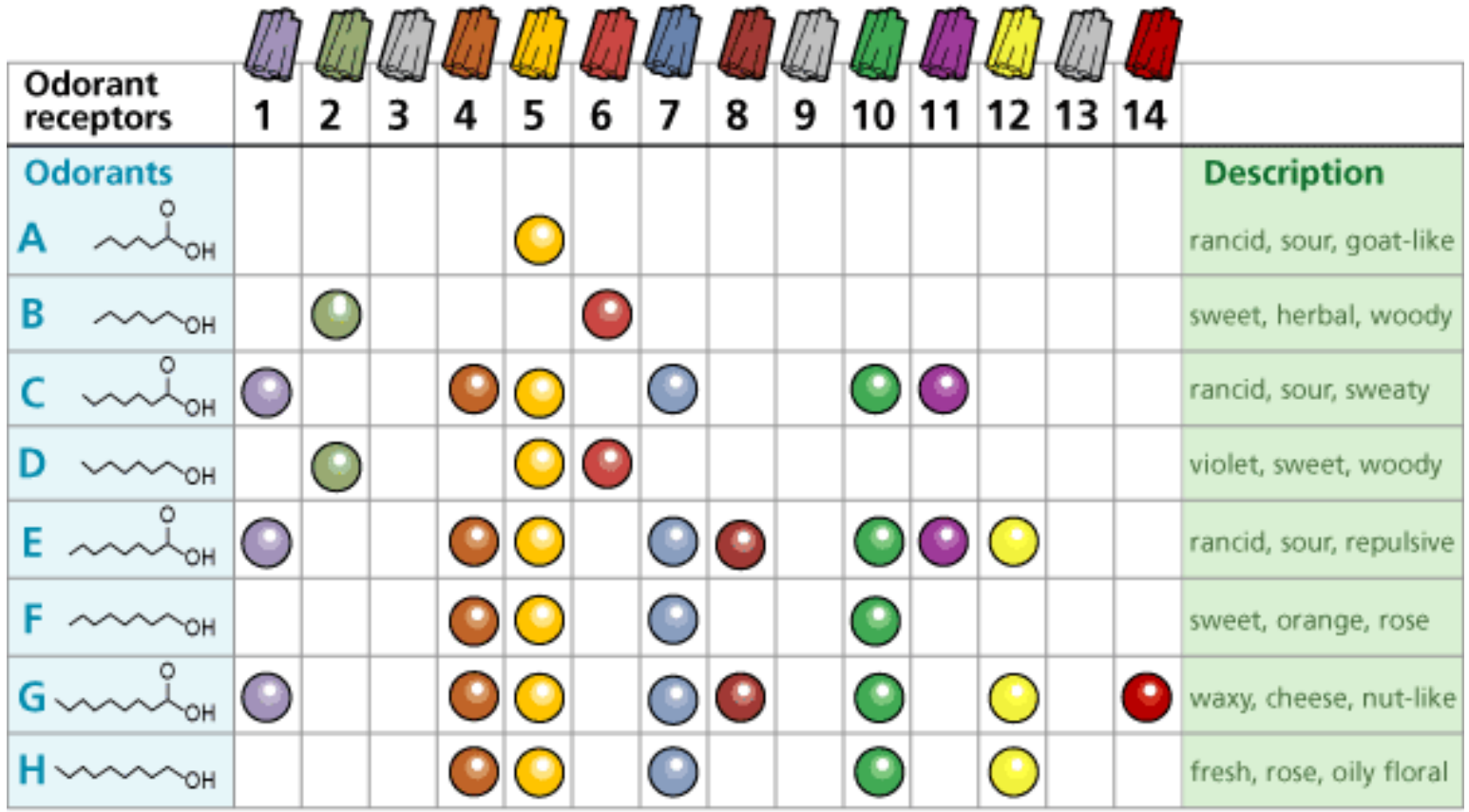
Nose



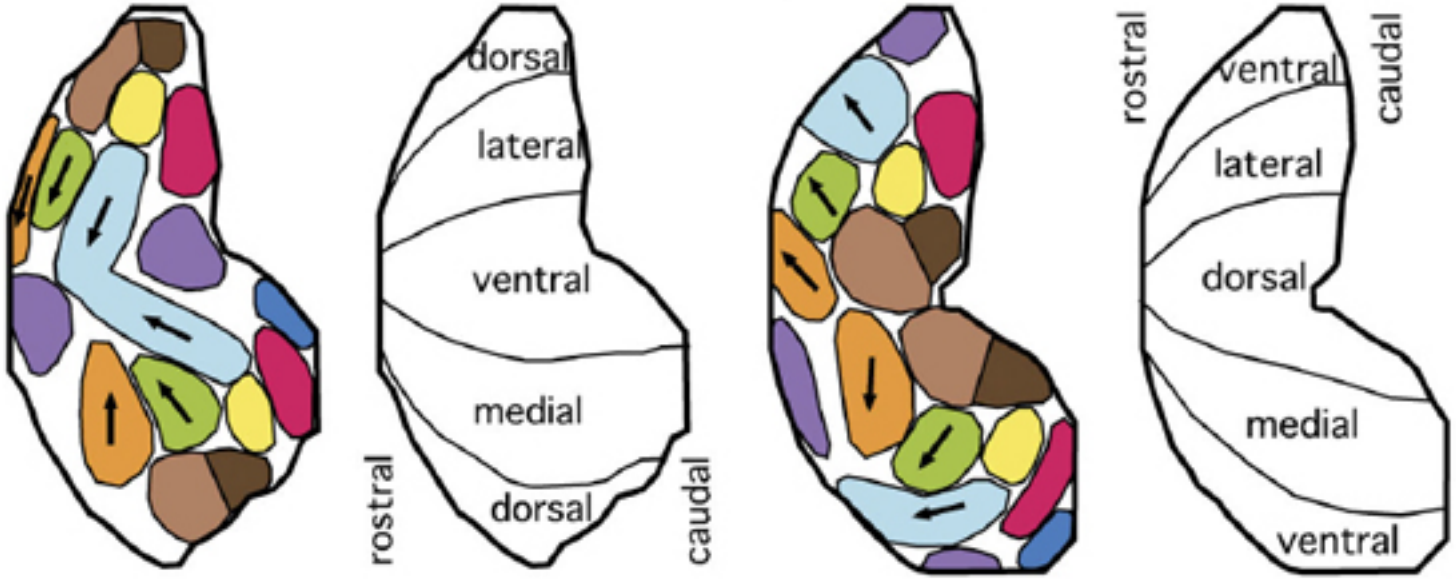
Brain

Organisational principles remain debated

Odourants may be coded based on the combination of receptors they activate (14 are shown here)



Mapping of >300 odourants suggests a chemotopic map



carboxylic acids, methyl and ethyl esters

primary alcohols, aldehydes, phenols

aliphatic hydrocarbon chain

aliphatic esters

aromatics with O groups, high concentrations of ketones

aromatic hydrocarbons

methyl-substituted bicyclic compounds

highly water-soluble compounds

septal organ projection, broadly responsive

chemotopic progression with increasing carbon number

Key concepts

- **Maps can represent a range of different types of information**
- **Not all maps make sense to us, but they must make sense to the brain!**